

# *Sorsogona humerosa*, a new flathead fish (Scorpaeniformes: Platycephalidae) from the western Indian Ocean

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**ABSTRACT.** A new species of the genus *Sorsogona* is described here from four specimens taken off the coasts of Mozambique and Somalia. It differs primarily from the closely related *S. prionota* (Sauvage, 1873) and *S. nigripinna* (Regan, 1905) in colour pattern and number of horizontal scale rows above the lateral line (4–6 in *S. prionota*, 8 in *S. humerosa*, and 9–10 in *S. nigripinna*). Colour pattern differences in the caudal fin include: 3–5 dark bars in *S. prionota*, 2 broader bars in *S. humerosa*, and a uniform dusky pattern in *S. nigripinna*. A key to the species of *Sorsogona* from the Western Indian Ocean (WIO) is also included.

**RÉSUMÉ.** Une nouvelle espèce du genre *Sorsogona* est décrite ici à partir de quatre échantillons pris sur les côtes du Mozambique et de la Somalie. Cette espèce diffère principalement des espèces qui lui sont très proches, notamment la *S. prionota* (Sauvage, 1873) et *S. nigripinna* (Regan, 1905) par sa couleur et le nombre de rangées d'écailles horizontales au-dessus de la ligne latérale (4–6 pour la *S. prionota*, 8 pour *S. humerosa*, et 9–10 pour la *S. nigripinna*). Les différences de couleur de la nageoire caudale comprennent: 3–5 barres foncées pour *S. prionota*, 2 barres plus larges pour *S. humerosa*, et une couleur unique sombre pour *S. nigripinna*. Ceci comprend également la caractéristique des espèces *Sorsogona* de l'ouest de l'Océan Indien.

**KEY WORDS.** *Sorsogona humerosa*, new species, Western Indian Ocean

Several flathead specimens that seemed close to *Sorsogona prionota* were taken off northern Mozambique during a cruise of the R/V Dr. Fridtjof Nansen on October 10, 2007. These, along with two specimens taken on R/V Anton Bruun Cruise 9 off Somalia in 1964 are the basis for the new species described here. With this new addition the genus *Sorsogona* now comprises six species. Four (*S. humerosa*, *S. nigripinna*, *S. portuguesa* and *S. prionota*) are restricted to the Western Indian Ocean. The range of *S. melanoptera* is from the Gulf of Oman to Thailand, while that of *S. tuberculata* is from the Persian Gulf to northern Australia.

## METHODS

Counts and measurements were taken according to Hubbs & Lagler (1949). Measurements were taken with calipers and rounded to the nearest mm. Vertebrae were counted from radiographs. Standard length and head length are abbreviated as SL and HL, and total gill rakers on first arch as GR. Terminology of head spines follows Knapp *et al.* (2000).

Institutional acronyms are: SAIAB (South African Institute for Aquatic Biology, formerly RUSI; USNM (United States National Museum, Smithsonian Institution), and BPBM (Bishop Museum).

## KEY TO THE WIO SPECIES OF *SORSOGONA*

- 1a. Soft dorsal- and anal-fin rays 11, GR 7–8; preopercle spines usually 5 or more, rarely 4; iris lappet crenate ..... *S. tuberculata* (Persian Gulf to Indonesia, Philippines and northern Australia)
- 1b. Soft dorsal- and anal-fin rays 12; GR 10–18; preopercle spines 3; iris lappet bilobed ..... 2
- 2a. All LL scales with 1 or 2 backward directed spines; lower lip with a row of finger-like papillae .....  
..... *S. portuguesa*. (Durban, South Africa to Madagascar and Mozambique)
- 2b. Anterior LL scales with a spine, lacking on posterior scales; lower lip smooth ..... 3

- 3a. Pelvic fins with dark spots; caudal fin with 2-5 vertical dark bands; humeral area under opercle with a pattern of dark blotches or swirls on a pale background .....4
- 3b. Pelvic and caudal fins uniformly dusky; humeral area under opercle pale or dusky .....5
- 4a. Caudal fin with 3-5 narrow vertical dark bars; humeral area with dark swirled pattern (Fig. 3b); horizontal scale rows above LL 4-6.....*S. prionota* (Delagoa Bay to Karachi and through Red Sea to the eastern Mediterranean)
- 4b. Caudal fin with dark basicaudal bar, a central light area and a broad dark band on rear half; scale rows above LL 8; humeral area with large dark blotches (Fig. 3a) ..... *S. humerosa* sp. nov. (Somalia to Mozambique)
- 5a. GR 14-18; dorsal fins dusky; lower edge of suborbital bone smooth.....*S. nigripinna* (Somalia and Gulf of Aden to Gulf of Oman)
- 5b. GR 10-13; dorsal fins with dark blotches; lower edge of suborbital bone serrate below eye ..... *S. melanoptera* (Gulf of Oman to Andaman Sea off southern Thailand)

*Sorsogona humerosa* sp. nov.  
White-margined flathead; Figs. 1-3

**Holotype.**SAIAB82423,(125 mmSL),Mozambique, R/V Dr. Fridtjof Nansen, Sta. 99, 18° 26.1'-18°27.7' S, 37°20.9'-37°20' E, 30 Oct. 2007, bottom trawl, 95-97 m, P.C. & E. Heemstra.

**Paratypes.** SAIAB 96784, 123 mm SL, same station as holotype; USNM 340509 (2, 152 &161 mm SL), Somalia, R/V Anton Bruun Cr. 9, Sta. 447, 10°00' N, 51°15' E, 16 Dec. 1964, bottom trawl, 59-61 m, H. A. Fehlmann.

**Other material examined.** *Sorsogona nigripinna*, USNM 358125 (8, 92-125 mm), Oman, R/V Anton Bruun Cr. 4B, Sta. 273A, 20°50' N, 59°10' E, 4 Dec.

1963, bottom trawl, 77 m, H. A. Fehlmann; USNM 280344 (5, 114-122 mm), Somalia , R/V Anton Bruun Cr. 9, Sta. 449, 10°03' N, 51°15' E, 16 Dec. 1964, bottom trawl, 31-39 m, H.A. Fehlmann; USNM 285598 (3, 138-151 mm), Somalia, Ras Binnah, F/V Beinta Sta. 15-7, 37°54' N, 51°14' 24" E, 16 Oct. 1986, bottom trawl, 40 m, G. Small. *S. prionota*, USNM 340508 (200 mm), Somalia, Ras Hafun, 10°07'24" N, 51° 31'12" E, 6 Feb. 1987, bottom trawl, 42 m, G. Small; USNM 191692 (5, 96-176 mm), Red Sea, Eylath, Gulf of Aqaba, 5-9 Sept. 1960, E. Clark; USNM 340507 (2, 110 & 128 mm) Gulf of Oman, M/V Darbat, Sta. 4, 23°46.3' N, 58°01.3'-57°58' E, 11 Mar. 1977, bottom trawl, 15-17 m, W. Smith-Vaniz; BPBM 36416 (2, 81 & 99 mm) Persian Gulf off Bahrain, Government Trawler, 9 Nov. 1983, J. E. Randall. *S. portuguesa*, USNM 268920 (3, 118-137



Fig. 1a. Holotype of *Sorsogona humerosa* sp. nov., immediately after capture, Mozambique, SAIAB 82423, 125 mm SL (P. Heemstra).



Fig. 1b. Photograph of holotype (left side), after preservation (P. Heemstra).

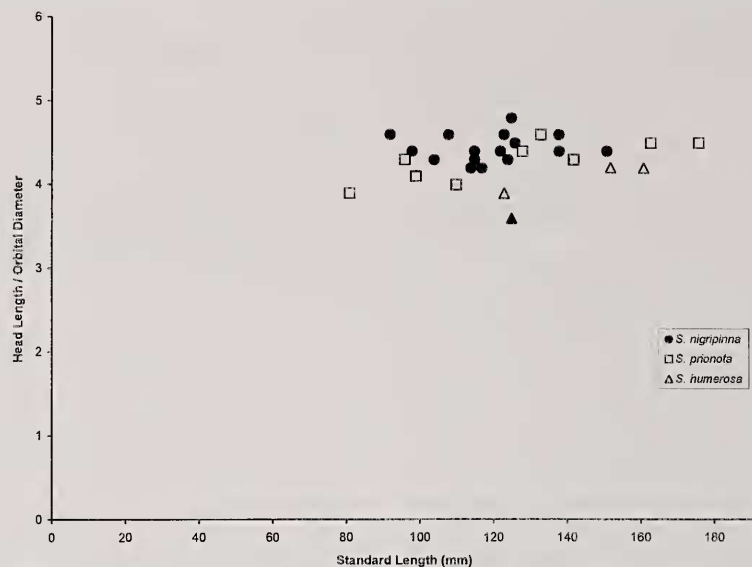


Fig. 2. Ratio of orbital diameter into HL for three species of *Sorsogona* (holotype is solid triangle).

mm), Mozambique, R/V *Anton Bruun* Cr. 8, Sta. 401B, 19°50' S, 36°21' E, 9 Oct. 1964, shrimp trawl, 65 m, L. Knapp. *S. melanoptera*, USNM 280333 (3, 93–103 mm), Gulf of Oman, R/V *Anton Bruun* Cr. 4B, Sta. 257A, 26°N, 56°47' E, 1 Dec. 1963, bottom trawl, 46–48 m, H. A. Fehlmann. *S. tuberculata*, BPBM 29502 (12, 81–125 mm), Persian Gulf, off Bahrain, Government trawler, 9 Nov. 1983, J. E. Randall.

**DIAGNOSIS.** A species of *Sorsogona* with 12 soft dorsal- and anal-fin rays; pelvic fins with several dark blotches; anterior lateral line scales bearing a small spine; 10–11 GR on first arch; circa 8 horizontal scale rows above LL; lower lip lacking papillae; and two vertical dark bands on caudal fin.

**DESCRIPTION.** Data for holotype given followed by that of paratypes in parentheses when different. Dorsal-fin spines 8, rays 12; anal-fin rays 12; pectoral-fin rays 2 + 11 + 8 (2 + 12 + 6); pelvic fin with 1 spine and 5 rays, innermost unbranched; caudal fin with 12 branched rays; vertebrae 27; total gill rakers on first arch 10 (10–11); pored scales in lateral line 53 (51, 53), anterior 20 scales (12–17) bearing spines; 8 scale rows between 2<sup>nd</sup> dorsal-fin origin and lateral line; lateral line scale tubes with 2 openings to exterior. Villiform teeth in bands on jaws, small canines on palatines and in two separate patches on vomer. Interorbital width 17 (13–19) times in SL. Ratios of orbital diameter into HL for *S. humerosa*, *S. prionota* and *S. nigripinna* are given in Fig. 2.



Fig. 3a. Colour pattern under opercle, left side, holotype of *Sorsogona humerosa*



Fig. 3b. Colour pattern under opercle, right side, of *Sorsogona prionota*, Gulf of Aqaba, USNM, 191692, 163 mm SL.



Top and sides of head armed with numerous small spines. Preopercular spines 3, uppermost longest, with a stout accessory spine on base; preocular spines 5 (5–7), innermost longest; lower opercular spine with small serrae anteriorly on base; suborbital ridge bearing many small spines and serrae, becoming larger posteriorly; ethmoid and nasal bones with small spines.

Colour description is taken from the photograph of the freshly preserved holotype. Dorsum brownish with 5 darker bands crossing back, venter whitish. Dark brown blotch on head below rear half of eye. First dorsal fin with blackish band along upper half; second dorsal fin more or less clear with small brown spots on rays. Pectoral and pelvic fins with brown spots (pelvic fin with base of spine and rear margin whitish); anal fin clear with whitish margin; caudal fin with basicaudal dark bar, a central light area and a broad, dark band on posterior half, with narrow white edge to rear margin. Humeral area with large dark blotches (Fig. 3a)

**ETYMOLOGY.** The name draws attention to the characteristic dark blotches that appear on the humeral area under the opercle of the new species.

**COMPARISONS.** In summary, *Sorsogona humerosa* has 8 horizontal scale rows above the lateral line, caudal fin with 2 broad dark bars, humeral area with 2 or 3 dark oval-shaped blotches, and white edges to the pelvic, anal and caudal fins. *S. prionota* 4–6 horizontal scale rows above the lateral line, caudal fin with 3–5 dark bars, humeral area with a dark swirled pattern, and lacks white edges to the pelvic, anal and caudal fins.

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